

DATE PREPARED: October 16, 2016

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Place of Birth: Roussillon, France

Education:

1999	Baccalauréat S, Mathematics specialty, cum laude
2002	Master's Degree in Biostatistics, summa cum laude Broussais-Hôtel-Dieu Medical School, Pierre et Marie Curie University, Paris VI, France
2003	Master's Degree in Ethics and Deontology, cum laude La Pitié-Salpêtrière Medical School, Pierre et Marie Curie University, Paris VI, France
10/99 – 06/06	René Descartes Medical School, Paris V University, France
2006	National Medical Contest, Rank 69/7000
2011	Post-Graduate Degree in Microstructure Imagery, summa cum laude Claude Bernard Lyon 1 University, France
2011	M.D., summa cum laude Claude Bernard Lyon 1 University, France
2012	European Board of Ophthalmology, Paris, France
2013	Specialized Degree in Ophthalmology, Lyon, France
2015	Medical Science Teaching Degree, cum laude Claude Bernard Lyon 1 University, France

Post-Doctoral Training:

11/06 – 05/12	Resident	Ophthalmology Specialties: cornea, cataract and refractive surgery Edouard Herriot Hospital, Lyon, France Croix-Rousse Hospital; Lyon, France
11/10 – 11/11	Research fellow	Lyon Cornea Bank Edouard Herriot Hospital, Lyon, France
05/12 – 05/15	Clinical fellow	Cornea and Refractive Surgery Edouard Herriot Hospital, Lyon, France
11/14 – present	PhD student	Tissue engineering for the cornea reconstruction International collaboration Claude Bernard Lyon 1 University, Lyon, France Schepens Eye Research Institute, Harvard Medical School, Boston, USA
09/15 – present	Research Fellow	Cornea Center of Excellence, Harvard Medical School, Schepens Eye Research Institute, Boston, USA

Faculty Academic Appointments:

05/12 – present	Instructor Ophthalmology Claude Bernard Lyon 1 University, Lyon, France
05/15 – present	Assistant Professor of Ophthalmology Claude Bernard Lyon 1 University, Lyon, France

Appointments at Hospitals/Affiliated Institutions

05/12 – 05/15	Assistant in Ophthalmology, Active Staff, Edouard Herriot Hospital, Lyon, France
05/12 – 05/15	Associate Surgeon, Active Staff, Edouard Herriot Hospital, Lyon, France

Major Administrative Leadership Positions:

2002 – 2006	Student Member of the Paris V University Board
2010 – 2011	Chief Fellow, Department of Ophthalmology, Edouard Herriot Hospital, Lyon, France

Committee Services:Local

2012 – present	Examiner for the M.D. degree of Claude Bernard Lyon 1 University, Lyon, France
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Professional Societies:

2006 - present	Rhone-Alps Ophthalmological Society (SORA)
2007 – present	French Society of Ophthalmology (SFO)
2007 – present	French Society of Cataract and Refractive Surgery (SAFIR)
2010 – present	Association for Research in Vision and Ophthalmology (ARVO)
2011 – present	American Academy of Ophthalmology (AAO)
2011 – present	American Society of Cataract and Refractive Surgery (ASCRS)

Editorial Activities:Ad hoc reviewer

2014 – present	<i>Journal of Refractive Surgery</i>
2015 – present	<i>Investigate Ophthalmology Visual Science</i>

Honors and Prizes:

2007	Regional Ophthalmology Society Prize for the work on uveal effusion induced by topical travoprost in a patient with Sturge-Weber-Krabbe syndrome
2008	Regional Ophthalmology Society Prize for the study about therapeutic corneal graft for the treatment of perforating fungal keratitis
2009	Regional Ophthalmology Society Prize for the study about Da-Vinci femtoseconde laser
2011	Research Scholarship for the study of the femtoseconde laser corneal cut influence on endothelial viability
2011	French Eye Bank Prize for the study of the femtoseconde laser corneal cut influence on endothelial viability
2012	Regional Ophthalmology Society Prize for the study of Cultured Autologous Oral Mucosa Epithelial Cell-Sheet (CAOMECS) Graft for the Treatment of Blindness Due to Bilateral Limbal Stem Cell
2015	First movie prize of the French Society of Ophthalmology for <i>DMEK: dream or nightmare?</i>
2016	Best Paper Award, Eye Bank Association of America & Cornea Society, AAO 2016, Chicago, USA

REPORT OF FUNDED AND UNFUNDED PROJECT

Funded Projects:

Past

2002 – 2004	Premature babies' ophthalmological and neuropsychological development study Gustave Roussy Hospital, Villejuif, Paris, France
2008 – 2009	Travoprost LP vs Travoprost Polyquad Multicentric study about glaucoma treatment Edouard Herriot Hospital, Lyon, France
2011 – 2012	Cultured Autologous Oral Mucosa Epithelial Cell-Sheet (CAOMECS) Graft for the Treatment of Blindness Due to Bilateral Limbal Stem Cell Lyon Cornea Bank, Dr O. DAMOUR's department, Lyon, France
2011 – 2012	Femtoseconde laser corneal cut influence on endothelial viability Lyon Cornea Bank, Dr O. DAMOUR's department, Lyon, France
2013	CHOC Protocol / Orfan Europe Paris and Lyon bi-centric study about the corneal cystinosis treatment Edouard Herriot Hospital, Lyon, France

Current

2014 – present	PAK Protocol (Protocol of Activated Keratocytes), Cornea graft rejection prevention by confocal microscopy Edouard Herriot Hospital, Lyon, France
2014 – present	DMEK project Lyon cornea bank technicians' training for the dissection of the endothelial descemet so as to provide ready to use endothelial grafts in France Lyon Cornea Bank, Lyon, France
2015 – present	Department of Ophthalmology, Cornea Center of Excellence, Harvard Medical School, Massachusetts Eye and Ear Infirmary, Schepens Eye Research Institute, Boston, MA, USA Role of Dietary Factors in Fuchs' Endothelial Corneal Dystrophy Study coordinator
2015 – present	Department of Ophthalmology, Cornea Center of Excellence, Harvard Medical School, Massachusetts Eye and Ear Infirmary, Schepens Eye Research Institute, Boston, MA, USA Assessment of Corneal Endothelial Function Following Hypoxic Stress Study coordinator
2015 – present	Department of Ophthalmology, Cornea Center of Excellence, Harvard Medical School, Massachusetts Eye and Ear Infirmary, Schepens Eye Research Institute, Boston, MA, USA Regional Variability in Endothelial Cell Density in Fuchs' Endothelial Corneal Dystrophy: A Retrospective Study Study coordinator Department of Ophthalmology, Cornea Center of Excellence, Harvard Medical School, Massachusetts Eye and Ear Infirmary, Schepens Eye Research Institute, Boston, MA, USA

REPORT OF LOCAL TEACHING AND TRAINING

Teaching students in Courses:

2012 – present	Ophthalmology teaching for medical students, University of Lyon, France 50 hours/year
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Formal Teaching of Residents, Clinical Fellows and Research Fellows

2010 – present	Ophthalmology teaching for M.D. Edouard Herriot Hospital, Lyon, France 15 hours/year
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- 2010 – present Ophthalmology teaching for ophthalmological fellows
Edouard Herriot Hospital, Lyon, France
90 hours/year
- 2011 – present Cornea and External Disease, Ophthalmology Resident Lecture Series, Edouard Herriot
Hospital, Lyon, France
20 hours/year
- 2011 – present Refractive Surgery, Ophthalmology Fellows Lecture Series, Edouard Herriot Hospital, Lyon,
France
15 hours/year
- 2014 – present Cornea teaching for cornea specialists
Teaching head: Prof C. BURILLON (Lyon, France), Prof V. BORDERIE (Paris, France), Prof
T. BOURCIER (Strasbourg, France)
10 hours/year

Clinical Supervisory and Training Responsibilities

- 2011 – present Clinical Preceptor, Cornea and Refractive Surgery clinics, Clinical Fellows, Residents and
national/international observers.
Edouard Herriot Hospital, Lyon, France
- 2011 – present Surgical Preceptor, Refractive Surgery and laser procedures, Clinical Fellows and national
observers.
Edouard Herriot Hospital, Lyon, France
- 2013 – present Surgical Preceptor, DMEK surgery, Clinical Fellows and national/international observers.
Edouard Herriot Hospital, Lyon, France

Laboratory and Research Supervision and Training

- 2011 – present Co-organizer Monthly Cornea Case Conference Meeting for Resident and Fellows.
Edouard Herriot Hospital, Lyon, France
- 2011 – present Supervision of Ophthalmology Residents interested in Research. Weekly Mentorship.
Edouard Herriot Hospital, Lyon, France

Formally Supervised Trainees

- 2013 – 2014 Ygal Boujnah, Edouard Herriot Hospital, Lyon, France
Currently: Cornea Fellow, Centre Hospitalier Lyon Sud, Lyon, France
- 2014 – 2015 Anne-Sophie Marty, Edouard Herriot Hospital, Lyon, France
Currently: Cornea Fellow, Edouard Herriot Hospital, Lyon, France
- 2014 – 2015 Marie Regnier, Edouard Herriot Hospital, Lyon, France
Currently: Cornea Resident, Edouard Herriot Hospital, Lyon, France
- 2014 – 2015 Romain Mouchel, Edouard Herriot Hospital, Lyon, France
Awardee: Best poster of the Congress, French Ophthalmology Society, 2016
Currently: Cornea Resident, Edouard Herriot Hospital, Lyon, France
- 2014 – 2016 Sabrina Chelbi, Edouard Herriot Hospital, Lyon, France
Currently: Cornea Resident, Edouard Herriot Hospital, Lyon, France

REPORT OF REGIONAL, NATIONAL AND INTERNATIONAL INVITED TEACHING AND PRESENTATIONS

Regional Presentations

- 03/07 Uveal effusion induced by topical travoprost in a patient with Sturge-Weber-Krabbe syndrome.
Rhone-Alps Ophthalmological Society, March 2007, Lyon, France
- 11/07 Optical Coherence Tomography of the optical nerve and glaucoma: relevance and limits
Rhone-Alps Ophthalmological Society, November 2007, Lyon, France
- 03/08 Optical Coherence Tomography and glaucoma
Rhone-Alps-Auvergne University Hospital Conferences, March 2008, Lyon, France
- 05/08 Two cases of atypical inflammatory optical neuropathy by the Devic disease
French-Speaking Neuro-Ophthalmological Club, French Society of Ophthalmology, 2008, Paris,
France

- 05/08 Therapeutic treatment of the Devic disease
Rhone-Alps-Auvergne Neurological Club, May 2008, Lyon, France
- 11/08 Therapeutic corneal graft for the treatment of perforating fungal keratitis
Rhone-Alps Ophthalmological Society, November 2008, Lyon, France
- 03/09 Da-Vinci femtoseconde laser study
Rhone-Alps Ophthalmological Society, March 2009, Lyon, France
- 11/09 Series of therapeutic perforating keratoplasties
Rhone-Alps Ophthalmological Society, November 2009, Lyon, France
- 03/10 Post-Lasik infectious keratitis: risk factors, evolution, treatment and visual recovery
Rhone-Alps Ophthalmological Society, March 2010, Lyon, France
- 03/11 Anatomic and functional results of PhotoRefractive Keratectomy v.s Trans-PhotoRefractive Keratectomy
Rhone-Alps Ophthalmological Society, March 2011, Lyon, France
- 11/12 Femtoseconde laser corneal cut influence on endothelial viability
Rhone-Alps Ophthalmological Society, November 2012, Lyon, France
- 03/13 Long-Term Results of Cultured Autologous Oral Mucosa Epithelial Cell-Sheet (CAOMECS) Graft for the Treatment of Blindness Due to Bilateral Limbal Stem Cell Deficiency
Rhone-Alps Ophthalmological Society, March 2013, Lyon, France
- 11/13 Cornea graft rejection prevention by confocal microscopy
Rhone-Alps Ophthalmological Society, November 2013, Lyon, France
- 12/16 Corneal endothelium
New Frontiers in Corneal Resarch
Harvard Medical School, Cornea Center of Excellence, Boston, MA, USA

National Presentations

- 05/08 Uveal effusion induced by topical travoprost in a patient with Sturge-Weber-Krabbe syndrome.
French Society of Ophthalmology, 2008, Paris, France
- 05/08 Anatomic and functional results of the LASIK treatment by both the femtoseconde and excimer lasers
French Society of Ophthalmology, 2009, Paris, France
- 05/10 An infectious keratitis which was difficult to cure
Cornea Club, French Society of Ophthalmology, 2010, Paris, France
- 05/10 A conjunctival epidermoid carcinoma revealed by a limbal ulceration
French Society of Ophthalmology, 2010, Paris, France
- 05/11 Endothelial graft by femtoseconde laser: functional and anatomic results
French Society of Ophthalmology, 2011, Paris, France
- 05/11 Acanthamoeba keratitis
Cornea Club, French Society of Ophthalmology, 2011, Paris, France
- 05/11 Anatomic and functional results of PhotoRefractive Keratectomy v.s Trans-PhotoRefractive Keratectomy
French Society of Ophthalmology, 2011, Paris, France
- 01/12 Stem-cell grafts
Interactive Training Sessions organized by the Ophthalmological Realities Journal, 2012, Versailles, France
- 01/12 Handling of cornea guttata
Interactive Training Sessions organized by the Ophthalmological Realities Journal, 2012, Versailles, France
- 05/12 Femtoseconde laser corneal cut influence on endothelial viability
French Society of Cataract and Refractive Surgery, 2012, Paris, France
- 05/12 Long-Term Results of Cultured Autologous Oral Mucosa Epithelial Cell-Sheet (CAOMECS) Graft for the Treatment of Blindness Due to Bilateral Limbal Stem Cell Deficiency
French Society of Ophthalmology, 2012, Paris, France
- 03/13 Ophthalmological emergencies
French Society of Medical Emergencies, 2013, Paris, France
- 05/14 Cornea graft rejection prevention by confocal microscopy

French Society of Ophthalmology, 2014, Paris, France

- 05/14 Refractive results of the corneal wedge resection for the treatment of giant astigmatism after a cornea graft.
French Society of Ophthalmology, 2014, Paris, France
- 05/14 Endothelial tolerance evaluation of Artisan phakic intraocular lenses.
French Society of Ophthalmology, 2014, Paris, France
- 06/14 HD Analyzer and refractive surgery
In Refractiva Veritas Congress, 2014, Bordeaux, France
- 06/14 DMEK surgery, step by step
27th day of University Ophthalmology, 2014, Marseilles, France
- 05/15 Evaluation of the optical quality by HD Analyzer
French Society of Ophthalmology, 2015, Paris, France
- 05/15 Anatomic and Functional results of laser phototherapeutic photokeratectomy for the treatment of corneal anterior scarring
French Society of Ophthalmology, 2015, Paris, France
- 05/15 Anatomic and functional DMEK results by « no-touch dissection »
French Society of Ophthalmology, 2015, Paris, France
- 05/15 Case Report: Tattooed Hands and Cornea...
Cornea Club, French Society of Ophthalmology, 2015, Paris, France
- 05/15 Validation of an endothelial roll preparation for Descemet Membrane Endothelial Keratoplasty by a cornea bank using “no touch” dissection technique.
French Society of Ophthalmology, 2015, Paris, France
- 05/15 Interest of femtocataract surgery
French Society of Cataract and Refractive Surgery, 2015, Paris, France
- 06/15 DMEK Management
In Refractiva Veritas Congress, Bordeaux, France
- 06/15 Topography, Aberrometry, HDAnalyzer, Cornea Ectasia after LASIK Surgery
Refractive News, June 2015, Nice, France
- 06/15 Cornea in Danger, Infectious Keratitis
ROCK in Lyon, Lyon, France
- 06/15 Sterile Keratitis and Lenses
AFELC, Toulouse, France

International Presentations

- 02/13 Long-Term Results of Cultured Autologous Oral Mucosa Epithelial Cell-Sheet (CAOMECS) Graft for the Treatment of Blindness Due to Bilateral Limbal Stem Cell Deficiency
SITRAC (Societa Italianaa Trapianto di Cornea), 2013, Padua, Italy
- 10/13 Epithelial Stem Cell Graft for the Treatment of Blindness Due to Bilateral Limbal Stem Cell Deficiency
EVER (European Association for Vision and Eye Research), 2013, Nice, France
- 05/14 Graft preparation for DMEK
DMEK Lectures, May 2014, Rothschild Foundation, Paris, France
- 04/15 Cornea Graft Rejection by Confocal Microscopy
World Cornea Congress & ASCRS Highlights, 2015, San Diego, USA
- 04/16 Topo-Linked TransEpithelial PhotoTherapeutic and Refractive Keratectomy for the treatment of post-infectious and post-traumatic corneal opacities
ASCRS, 2016, New-Orleans, USA
- 10/16 Endothelial Cell-Guttate Interactions: Live Cell Imaging Study
Eye Bank Association of America & Cornea Society, AAO, 2016, Chicago, USA

REPORT OF CLINICAL ACTIVITIES

Current licensure and Certification

2011 – present	Conseil National de l'Ordre des Médecins Inscription au Tableau #69/23146; RPPS # 10100466522
2012	European Board of Ophthalmology

Practice Activities:

Cornea

- Keratoplasties (Perforating Keratoplasty, Deep Lamellar Anterior Keratoplasty and Descemet Membrane Endothelial Keratoplasty)
- Corneal Dystrophies
- Infectious and inflammatory keratitis
- Keratoconus
- Photo Therapeutic Keratectomy

Ocular surface

- Limbal stem cell deficiency
- Limbal Autograft
- Cultured Autologous Oral Mucosa Epithelial Cell-Sheet (CAOMECS) Graft
- Pterygium Surgery
- Amniotic Membrane

Refractive Surgery

- Photo Refractive Keratectomy
- Femto-LASIK
- Phakic IOL

Cataract Surgery and Femto-cataract surgery

Activity

Consultations	2700/year
Surgery	650/year
- Keratoplasties (Perforating Keratoplasty and Deep Lamellar Anterior Keratoplasty)	185/year
- DMEK	80/year
- Cataract	310/year
- Amniotic Membrane	100/year
- Phakic IOL	20/year
- Limbal Autograft	15/year
- Pterygium and Tumor	20/year
Laser Surgery	460/year
- Photo-Refractive Keratectomy	260/year
- Femto-LASIK	100/year
- Photo-Therapeutic Keratectomy	100/year

Clinical Innovations:

2010	Cultured Autologous Oral Mucosa Epithelial Cell-Sheet (CAOMECS) Graft for the Treatment of Blindness Due to Bilateral Limbal Stem Cell Deficiency
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REPORT OF TECHNOLOGICAL AND OTHER SCIENTIFIC INNOVIATIONS

2015	Kocaba DMEK forceps®, Malosa, single-use surgical instrument, Elland HX5 9JB, UK
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REPORT OF SCHOLARSHIP

2016	Harvard – Sachs Scholarship
2015	Harvard – Sachs Scholarship
2015	Fulbright Scholarship
2015	Mobility Grant of the French Society of Ophthalmology
2015	Mobility Grant of the Hospices Civils de Lyon

Peer-Reviewed Publications in Print or Other Media

Gambrelle J, Denis P, **Kocaba V**, Grange JD.

Uveal effusion induced by topical travoprost in a patient with Sturge-Weber-Krabbe syndrome.
J Fr Ophtalmol. 2008;31(9):e19.

Kocaba V, Thépot A, Yamato M, Daisuke M, Kellal M, Mojallal A, Damour O and Burillon C.
Long-Term Results of Cultured Autologous Oral Mucosa Epithelial Cell-Sheet (CAOMECS) Graft for the Treatment of Blindness Due to Bilateral Limbal Stem Cell Deficiency.
J Stem Cell Res Ther., 2014, 4:181.

Kocaba V.

June consultation #5.

J Cataract Refract Surg. 2014, 40(6):1051-2.

Kocaba V, Colica C, Rabilloud M, Burillon C.

Predicting Corneal Graft Rejection by Confocal Microscopy.
Cornea. 2015 Oct;34 Suppl 10:S61-4.

AS Marty, Burillon C, Desanlis A, Damour O, Auxenfans C, **Kocaba V**

Validation of an endothelial roll preparation for Descemet Membrane Endothelial Keratoplasty by a cornea bank using “no touch” dissection technique.

Cell Tissue Bank. 2016 Jun;17(2):225-32.

Kocaba V, Damour O, Auxenfans C, Burillon C

Limbal Stem Cell Deficiency. A Review

J Fr Ophtalmol. 2016 Oct 11. pii: S0181-5512(16)30190-5.

Non-peer Reviewed Scientific or Medical Publications/Material in print or other Media:

Kocaba V, Burillon C.

Grefte de cornée devant un déficit en cellules souches limbiques

Cornea Graft In Case of Limbal Stem Cell Deficiency

In the French Journal Ophthalmological Images, December 2015

Damour O, **Kocaba V**, Poli M, Nataf S, Burillon C, Braye F, Auxenfans C

Culture de cellules souches épithéliales pour la régénération des épithéliums cornéen et cutané

Epithelial cell culture for cornea and cutaneous epithelial regeneration,

Courrier de la Transplantation, Dec 2015

Kocaba V, Burillon C.

Apport de la microscopie confocale dans les pathologies cornéennes

Images en ophtalmologie, décembre 2014

Kocaba V, Burillon C.

Les complications anatomiques du femto-Lasik

Réalités Ophtalmologiques, juin 2014

Kocaba V, Burillon C.
Conduite à tenir devant une cornea guttata
Réalités Ophtalmologiques, mars 2013

Burillon C, **Kocaba V**.
Les greffes de cellules souches
Réalités Ophtalmologiques, mars 2013

Movies

Kocaba V, Burillon C.
Vidéo : Plongée dans la cornée... *Diving into the cornea...* (<https://www.youtube.com/watch?v=75j3OrMNzEI>)

Kocaba V, Burillon C.
DMEK : Dream or Nightmare ? ASCRS 2016 (<https://youtu.be/daT8v369rvs>)

Reviews and Chapters:

Cornut PLC, De Bats M, Feldman A, Poli M, **Kocaba V**.
Ophtalmologie - l'ECN en fiches, (Ed. Ellipses), 2009
Ophthalmology – Preparation for the National Medical Contest – Advice to 6th year students, Ed. Ellipses, 2009

Kocaba V, Burillon C. (2012)
EMC : Chirurgie réfractive cornéenne : LASIK
Corneal refractive surgery: LASIK
EMC [21-206-A-32]

Kocaba V, Burillon C. (2016)
EMC : Chirurgie des pathologies sévères de la surface oculaire.
French Encyclopedia of Medicine: Surgical Techniques for Ocular Surface Reconstruction
EMC [21-200-A-05]

Kocaba V, Burillon C. (2016)
EMC : Kératoplasties endothéliales
French Encyclopedia of Medicine: Endothelial Keratoplasties
EMC [21-206-A-15], in press

NARRATIVE REPORT

I am an Assistant Professor at Claude Bernard Lyon 1 University. Furthermore, I am a research fellow in the laboratory of Dr Ula V. Jurkunas since September 2015. This laboratory is considered as one of the best in the world for their research in corneal endothelial biology and specifically Fuchs Dystrophy. Besides, I am also enrolled in the second year of my PhD at Claude Bernard Lyon 1 University, France. The objective of my doctoral dissertation is to develop a treatment paradigm using tissue engineering for corneal reconstruction. Corneal endothelial dysfunction accounts for one of the leading cause for blindness that affects millions of people worldwide (10%). The corneal endothelium is the innermost and most fragile part of the cornea because the endothelial cells do not renew after birth. Therefore, the loss of corneal endothelial cells results in progressive enlargement of existing cells any uncontrolled loss leads to endothelial failure. The most frequent endothelial dystrophy is named Fuchs endothelial corneal dystrophy (FECD) and is characterized by progressive loss of corneal endothelial cells, thickening of Descemet's membrane and deposition of extracellular matrix in the form of guttae. When the number of endothelial cells becomes critically low, the cornea swells and causes loss of vision. The clinical course of FECD usually spans 10–20 years. Corneal transplantation is currently the only modality used to restore vision.

The techniques have greatly evolved from the perforating keratoplasty that involves replacing the whole cornea, meant a slow recovery as well as a high rejection rate to the latest cornea graft techniques in which we only graft the endothelial layer. These new techniques significantly reduce the cornea graft rejection risk and enable a more rapid and better visual recovery. However, these techniques happened to be a difficult surgical technique with an extremely long learning curve. Furthermore 50% of the patients do not have an access to the cornea graft. Taking this difficulty into account, we need to develop a new treatment to cure all patients that is to say millions of people worldwide. Therefore, in this study we aim to develop the technique of isolating and cultivating endothelial stem cells to treat patients who suffer from endothelial deficiency. This can help reduce the economic burden as well as the demand for donor corneas that can replace the existing transplantation procedures with cellular therapy.